d States
rtment of
ulture

omic
arch
ce

International
Economics
Division

IED Staff Report

BARTER OF AGRICULTURAL COMMODITIES

by

Donna U. Vogt
Cathy L. Jabara
Dee A. Linse

Barter of Agricultural Commodities

by

Donna U. Vogt
Cathy L. Jabara
Dee A. Linse

Trade Policy Branch
International Economics Division
Economics Research Service
U.S. Department of Agriculture
Washington, D.C. 20250

April 1982

Barter of Agricultural Commodities. By Donna U. Vogt, Cathy L. Jabara, International Economics Division, Economic Research Service; and Dee A. Linse, Planning and Analysis Staff, Foreign Agricultural Service. April 1982. ERS Staff Report No.

ABSTRACT

Barter and barter-type agreements are employed by developing and centrally-planned countries in trade of both agricultural and nonagricultural products. These types of agreements generally involve the exchange of goods without the transfer of international currencies. This paper answers the question "why barter?" by describing the economic and political motives behind barter agreements and by providing a sample of agreements between countries that use barter in trade. The operation of the U.S. Barter Program from 1950 to 1973, which arranged for exchanges of agricultural commodities for strategic materials, supplies, and services, is described and the potential for future U.S. barter of agricultural commodities for strategic materials is examined. Results indicate that several developing countries could become key barter partners.

Key words: Barter, international trade, strategic materials, agricultural commodities

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the helpful assistance of many country analysts of IED, William Kost, Vernon Roningen, Richard Kennedy, Charles Pense, and William Randolph for their thorough review of this paper. We also gratefully acknowledge Sid Constantinos, Jean Nollmeyer, and Rose Zammichielli of FAS for providing background information, and Carol Stillwagon for statistical complication. The authors appreciate the assistance of Marie Kemp, Jamesena George, Rose Mayhew, and Theresa Wells for typing and retyping the various drafts.

Barter of Agricultural Commodities

by

Donna U. Vogt
Cathy L. Jabara
Dee A. Linse

Concerned about mounting farm product stocks held by the U.S. Government in Commodity Credit Corporation (CCC) inventories, some members of Congress and the Executive Branch have expressed an interest in reviving a barter program that would exchange agricultural commodities for strategic materials destined for the national stockpile (10). 1/ Barter arrangements in the past were used by the United States to facilitate trade in products that were difficult to export through normal trade channels; to acquire strategic materials; and to establish trade relations with countries which, because of a shortage of convertible currency, were obliged to barter. The U.S. Barter Program still has a legislative mandate, but it has not been active since 1973 because the U.S. Government reduced CCC-held stocks and lowered its strategic stockpile goals. Recent interest in reviving the program, on the part of both the United States and potential bartering partners, is exemplified by the announcement from the White House and the Federal Emergency Management Agency (FEMA) of an agreement to barter dairy products, metals, and cash with Jamaica in exchange for 1.6 million long-dry tons of bauxite (3, 18). This study analyzes the operation of the previous U.S. Barter Program and examines the potential for agricultural barter in the future.

To negotiate a barter agreement, each trading country must have a supply of a commodity for which the other is willing to trade. This "double coincidence of wants" considerably restricts the freedom of choice of the goods to be traded and the proceeds derived from trade. On the other hand, barter agreements have been used by developing and centrally-planned countries for a variety of reasons, especially when there is a lack of convertible foreign exchange. Barter arrangements do not necessarily involve the valuation of commodities at market-determined levels; thus negotiations can be lengthy and time-consuming. Barter agreements are often motivated to provide political and economic support for a trading partner's economy.

---

* Authors are Foreign Affairs Analyst and Agricultural Economist, Trade Policy Branch, International Economics Division, Economic Research Service and Agricultural Economist, Planning and Analysis Staff, Foreign Agricultural Service, U.S. Department of Agriculture, respectively.

1/ Underlined numbers in parentheses indicate references listed at the end of this report.

This paper describes costs and benefits of barter and its potential role in U.S. trade. The paper analyzes the role of barter agreements to exchange agricultural commodities for the materials currently on FEMA's list of strategic commodities. The paper is divided into two parts. The first part describes types of barter agreements currently in use, the advantages and disadvantages of these agreements, and some of the developing and centrally-planned countries which use them in trade. The second part of the paper describes the past U.S. Barter Program and potential barter partners.

PART I

Barter and Barter-type Agreements

Barter, as classically defined, is an aqreement to trade goods or services without the use of money. Barter agreements require what the classical economists call "a double coincidence of wants." That is, a seller cannot simply find a buyer who wants his product; the buyer must also have a product that the seller wants. Each agreement involves a single contract which stipulates the quantities of goods to be exchanged, or substitutes some institution for the competitive market to settle the terms of the barter. Complete avoidance of any association with money is difficult, however, because the amount to be exchanged is often defined in monetary terms using world market prices and international currencies, although premiums or discounts are sometimes applied.

In addition to "pure swaps", a variety of barter-type agreements have arisen in trade among developing and centrally-planned countries. These agreements are far from homogeneous in form, but they are similar to each other because exchanges are made that avoid totally or in part the transfer of international currencies. These barter-type agreements range from agreements to exchange specific commodities with equal or unequal trade balances to whole shopping lists of products that are simply an expression of friendship between countries. Final settlement of some of these exchanges is through clearing accounts and may involve international currencies or cash changing hands to liquidate any deficit remaining on either side.

Developing countries (LDCs) use different kinds of mechanisms to avoid payment in international currencies. For instance, a company in country A might pay for its imports from country B by depositing a sufficient amount of its own currency in a domestic bank. This money would not be exchanged for the currency of country B, but would be used by an importer in country B to purchase specified kinds of goods in country A (<u>12</u>). Many LDC's have trade protocols with other countries that are designed to equalize trade balances by specifying the quantity or value of goods to be exchanged annually (<u>16</u>).

Centrally planned countries in Eastern Europe, the USSR, and the Peoples Republic of China (PRC) use a variety of barter-type trading arrangements to avoid using international currencies. These arrangements have come to be called counter-trade, even though the phrase itself is applicable to a specific exchange mechanism (<u>4</u>,<u>6</u>,<u>8</u>,<u>33</u>). Most agreements have two or more contracts in which the terms of the exchange are spelled out.

<u>Counter-trade</u> transactions involve a seller who delivers technology or goods to a buyer and contractually agrees to purchase goods equal in value to a specified percentage of the original sales contract. For example, a Western exporter may sell technology or equipment to a Communist country in exchange for goods produced from this technology. The "payment" or "compensation" arrangements usually involve the extension of credit by a Western bank or company to a government agency or state bank within the Communist country. Normally two contracts are arranged when the importer cannot supply the reciprocal goods. For

example, Firm A contracts with Ministry B for $1000. worth of technology. At the same time Ministry B signs another contract with Firm A that specifies payment to be made with $500. cash and $500. worth of a certain good or service. The barter part of the exchange is the contractual arrangement that specifies what goods/services are to be exchanged for the technology.

An exchange is called a counter-purchase when counter-delivered goods are not produced from the supplied technology. Payments are often made in raw materials or in light manufactured items. State trading organizations frequently negotiate these trade exchanges. Another counter-trade type of agreement is a compensaton or buy-back arrangement. Repayment is in the products derived from the supplied technology, but these arrangements include larger amounts of time, money, and products than either the counter-trade or counter purchase arrangements. Compensation or buy-back arrangements are frequently used to preserve or enhance a company's competitive share of the market (34).

Switch arrangements involve clearing accounts that hold dollars or other currencies used to purchase goods produced in the countries subscribing to the clearing agreement. These currencies represent purchasing power for goods and are not directly convertible into foreign exchange. A switch agreement permits country A for example, that has a surplus in bilateral trade, to make a portion of its clearing account available to a third party. This third country could be country B or an international "switch" trading company whose business is to have clients interested in the specific purchasing power. This third party either directly or through complex international transactions, such as barter, acquires the right to the clearing account at a substantially discounted price.

Offset arrangements have barter-like components and are used by agencies of the U.S. Government, especially the Department of Defense, as a condition for the sale of U.S. defense articles. Under these arrangements, U.S. government agencies link, by contract, purchases of foreign goods and services to exports of U.S. goods. These tied sales are the barter component in the transaction (34). They do not usually involve agricultural commodities. These offset arrangements can be joint-ventures, subcontracts, co-production, or licensing arrangements. Variations of this trading method are used around the world.

Advantages and Disadvantages of Barter

Most international and domestic commerce involves trade of goods and services for cash because these types of transactions are simple, more convenient, and generally more efficient than barter. When a seller is paid with money, he can use it to buy any product from any source. In a barter arrangement, the seller is required to purchase specified commodities from his barter partner with his earnings. The "double coincidence of wants" requirement for barter places a restriction not only on the trades that can take place, but on expenditures of earnings as well.

The extensive use of barter and barter-type agreements by developing and centrally planned countries in trade, however, suggests that there are certain advantages perceived by both buyer and seller which motivate a barter transaction instead of a cash transaction. The advantages and disadvantages of barter are discussed below.

Advantages

Because of the advantages of money, barter and barter-type transactions generally have been used in international trade when there have been problems of exchanging currencies or when traders had little confidence in foreign currencies. For example, inconvertibility of the currencies of centrally-planned countries forces those governments to accumulate sufficient "hard" (i.e., convertible) currencies in order to import from the west. Because most centrally-planned countries have chronic shortages of hard currencies, their state-trading organizations frequently attempt to persuade Western companies to accept goods in partial payment for their imports.

Barter agreements have also been used by developing countries facing deteriorating terms of trade for principal export commodities or balance of payments deficits in order to save scarce foreign exchange and to offset fluctuating sales. Barter agreements were most prevalent during the depression of the 1930's when the collapse of the gold standard adjustment mechanism was accompanied by currency inconvertibility and the imposition of foreign exchange controls in many trading countries. However, there are a number of other advantages which have given rise to barter. These include:

Assure Access to Supplies--If a country imports most or all of an essential commodity-i.e. petroleum or food- and the officials perceive that the world market is restricted, governments may barter in order to guarantee supplies of a commodity for a specified time period. The reciprocal nature of barter agreements permits both seller and buyer to guarantee a supply of a commodity in a single agreement.

Excess supply of agricultural commodities--Countries with producer price supports that acquire surplus commodities often use barter to reduce excess supplies--especially when world prices are low (19). Use of barter agreements allows for sales of surplus commodities through specific price concessions to selected countries, in contrast to general

price reductions that could result from selling surpluses on the world market (5).

Declining terms of trade--Interest in barter-type arrangements also arises when demand for a particular principal export declines. Declining export prices and quantities vis-a-vis import costs has been an incentive for developing countries in the past to enter into reciprocal agreements in order to offset fluctuating sales in multilateral markets. Although many barter exchanges take place at world market prices, some developing countries have used barter agreements to increase the purchasing power of their exports vis-a-vis imports. Barter agreements became extremely useful among developing countries to exchange primary products for petroleum after price increases during the early and mid-seventies worsened the terms at which they traded with petroleum-exporting countries (14). Developing countries at times accept lower prices for their export products under barter arrangements in order to segment the market for their primary products during periods of declining demand (5).

Market development--Countries may want to lessen their dependence on main suppliers (often neighbors or former colonial powers) by diversifying to new trading partners. Developing countries have also used barter agreements to expand exports of nontraditional items (21). Barter arrangements for these purposes are similar to many bilateral trade agreements whose purpose is to get a foot in the door, establish marketing relations, collect information about the nature of the trading partner's demand for exports, and, over time, graduate the barter arrangement to commercial sales. Some companies also enter into counter trade arrangements because the market would be lost if the counter-trade offer were refused.

Political ties--Some countries establish barter agreements for strategic security reasons or to show political support for the leaders or political philosophy of a country. These agreements involve technical know-how or capital goods exchanges for agricultural commodities. Agreements made under this aegis are often statements of political support at the highest levels of government.

Disadvantages

There are several reasons why countries would prefer to arrange sales on a cash basis instead of barter. These reasons are largely related to inefficiencies in formulating barter contracts and include:

Double-coincidence of wants--Sellers interested in a barter arrangement must find a buyer that has a commodity for which the seller is willing to trade. Moreover the buyer and seller must agree on the quantity of one commodity that is equal in value to a quantity of the other either using the market to set the price or some other institution (usually a state-trading organization).

Government involvement--Many negotiated barter agreements are on a government-to-government basis. Countries in the European Economic Community, the United States, and many non EEC European countries

do not have marketing boards or state trading organizations to handle export sales. Governments in these countries are often unwilling or unable to overcome resistence on the part of individuals to have their markets government-controlled.

Timely negotiations--Barter takes a great deal of negotiation to work out; much more than an ordinary commercial sale where a commodity is valued at an international market price and is purchased by anyone that has the currency to pay for it. Barter negotiations involve agreement on prices as well as quantities (values) to be traded. Although many agreements provide for sales at world market prices, negotiated prices in some agreements provide for discounts or premiums over equivalent world prices. For instance, an oil-exporting country could decide to barter petroleum for feedgrains at a value less than OPEC set prices thereby increasing the exchange value of the feedgrain compared to world market prices. Since world prices change rapidly, lengthy barter negotiations could cause a loss or gain to one of the bartering parties. This would result in a windfall gain or loss to one of the partners.

Assessing quality--All trade specifies the exact quality of the commodity to be delivered. Each commodity has different quality standards that are valued at different world prices and since the barter arrangement involves a two-way exchange, it is more complicated than a normal sales agreement to guarantee the delivery of the quality agreed upon in the negotiations. Refusal to accept the delivered commodity means the counter-loss of a market for the other country. Therefore the simple exercise of refusal to pay as in a commercial agreement becomes more complicated in a barter arrangement.

Tied Sales--For one reason or another, barter may be more useful to one side of the exchange than to the other. For example, in the past year Venezuela decided that in exchange for guaranteed supplies of oil, its customers should provide technical assistance for development projects, preferential access for Venezuelan goods, or even obligations to buy Venezuelan industrial goods (13). Eastern European countries often demand obligations from their commercial trading partners to receive payment in goods. When these arrangements are made at the insistence of one trading partner, the goods received in payment may not be easily used or sold, but the guarantee of additional markets provides the incentive for the commerical trading firm to pursue the agreement.

Another aspect of these tied sales is that the recipient may not have the proper marketing channels for the products (whereupon it can be sold to a switch house at a large discounted price) or the product may compete in the initial seller's markets thereby replacing other valuable markets. Another problem that could arise is that normal trade purchasing patterns are broken because the exporter suddenly receives material normally purchased from other suppliers. Barter can therefore change normal buying routines and the benefits of the barter arrangement cease to be equal between trading partners. Third-country trading partners can also be affected to the extent the barter exchange disrupts customer trade flows.

Bureaucratic rivalries. In most governments, bureaucracies are responsible for various sectors of policy and activity. There is a rivalry among them. The ministry of food and agriculture does not necessarily work closely with the ministry responsible for energy or petroleum supplies. Therefore negotiations within governments for barter agreements may be as elaborate as those between countries. Few ministries are willing to release control over supplies of one commodity in order to allow another ministry to receive a good that might unduly enhance the others power, budget, status, or responsibility.

Samples of Barter Agreements

As discussed previously, there are several reasons countries perceive barter exchange agreements to be advantageous for trade. Tables 1 to 4 provide examples of 48 barter trade agreements negotiated by developing and centrally-planned countries--most since 1976. This sample of agreements illustrates many of the motives behind barter exchanges; only those agreements that involve trade in agricultural products are described. The longest running agreement, between the Peoples Republic of China (PRC) and Sri Lanka, exchanges rice for rubber and dates continuously from 1952. This sample of agreements largely involves developing and centrally-planned countries.

Most agreements specify quantities or values for trade during one year because neither party wants to be locked into long-term commitments that hold them to quantities or values that do not fluctuate with world market prices. Multi-year agreements involving the PRC, the USSR, and other countries correspond to five-year planning periods of the countries involved. Most long-term agreements, however, commit trade values; prices are usually settled using the market or are negotiated prior to the actual exchange.

The largest number of barter agreements in this sample contain provisions for bartering petroleum (table 1) and rice. Petroleum is an important barter commodity because exportable supplies are held by the USSR, which makes extensive use of various types of barter agreements to save hard currency, and many developing countries have shown increased interest in bartering for petroleum since 1973. Rice and petroleum are bartered by the PRC, another centrally-planned country that makes extensive use of barter agreements, to save hard currency (table 2). Other products bartered in Tables 1-4 include grains, soybeans, tropical products, fishmeal, cotton, tin, minerals, machinery and equipment. It must be emphasized that barter agreements for agricultural products constitute a very small part of world agricultural trade. No attempt was made to estimate the percent of barter in total agricultural trade because of difficulties in obtaining comprehensive information on all such agreements and actual annual trade flows.

The number of barter agreements involving petroleum exchanges increased after the petroleum price hikes in 1974 and before the 1979 price hike, although this is not explicitly shown in tables 1 to 4 (16). Increased demand for barter agreements involving petroleum support two of the advantages of barter agreements cited in the previous section: declining terms of trade and access to supplies of basic commodities. Commodities

Table 1--Barter Exchanges of Agricultural Commodities and Oil

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Brazil	USSR	5 yrs 1981	Soybeans-500,000t beans 400,000t meal 40,000 oil Cocoa-10,000t of beans 10,000t of liqueur Corn-500,000t a year Beginning in 1983	petroleum 20,000 b.p.d. for for 5 mo. (this tq be between Aug. and Dec. 1981) Turbines for hydro-electric power	The Brazilian agricultural goods are valued at U.S. $300 million. USSR is restructuring its food import program	ESS Agricultural highlights July 20, 1981
Vietnam	USSR	5 yrs 1981-85	timber coffee tea spices vegetables fruits consumer goods	petroleum products (increased amounts) fertilizers cotton rolled steel motor vehicles construction mach. paper products	1. no quantities given 2. trade will hopefully increase 90% in comparison with the 1976-80 period, according to news reports 3. Vietnam processes Soviet raw materials of cotton, wool, medical ingredients, and then ships textiles, carpets, and medicines back to USSR.	Cable 10865 Moscow Aug. 5, 1981
India	USSR	April 30 1981 to June 30 1982 Follow on Agreement to 1979/80 and 1980/81	Rice 500,000t barley 100,000t peanuts 20,000t corn 200,000t alumina 50,000t sesame seeds 10,000 t semi tanned goat skins 2 million pieces	oil, crude 1 million mt. petroleum products 350,000 mt.	1. third barter agreement 2. value set at U.S. $750 million. 3. 1st time agricultural commodities other than rice were included. 4. this exchange will benefit India's foreign exchange situation, particularly in offsetting imported petroleum. 5. largest and most diversified agreement with an LDC by USSR.	Cable 06698 New Delhi Dec. 3, 1981

Key: b.p.d. = barrels per day.

Table 1--Agricultural Commodities and Oil (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
India	Iran	1980/81 1 yr	construction materials railway equipment rice wheat tea	crude oil raisins almonds	1. trade was below expectations because Indian banks did not get good credit terms nor get paid promptly 2. got oil from USSR and other sources	Economic Times of India
Turkey	Iran	1980-81 1 yr	barley wheat horticultural items	crude oil	1. worked well because of good border trade. Ports were out of service	Foreign Broadcast Information Service
Brazil	Venezuela	1980	soybeans 200,000 mt. sugar 360,000 mt.	oil 80,000 b.p.d.	1. value B.s 400,000,000 or U.S. $93,500,000 2. paid $732 for oil rather than $999.70 the world market price. 3. the swap was incremental to another trade agreement	Unicon News Feb. 24, 1980
Colombia	Algeria	1 yr 1980	coffee tobacco rice cocoa sugar meat cotton bananas	crude oil	1. the total value of this exchange on each side was $50 million.	Attache Report CO-1016 4/7/81

Key: b.p.d. = barrels per day.

Table 1--Agricultural Commodities and Oil (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Brazil	Iraq	1976 5 years	sugar rice 164,000 mt. soybeans volkswagens 11,000 Iron ore 5.3 MT.	crude oil		May 5, 1978 Latin American Economic Report
Guyana	Venezuela	1976	bauzite and other minerals	crude oil 20,000 b.p.d.	1. no quantities of value were listed	"Have Barter, will travel" The Economist 1/24/76
Philippines	Indonesia	1981	rice	crude petroleum	the price of the rice in this arrangement was \$232 mt. compared with world market prices of \$300 to \$350 mt. The discounted price was bartered by the Philippines for priority in Indonesia's oil allocation.	Asian Journal 5/6/81
Argentina	Iraq	1982	wheat 300,000 mt. Rice 40,000 mt.	crude oil	1. No amount of oil was given but the Saudis have agreed to cover any Iraqi shortfall in shipping oil to Argentina	cable 12/28/81 #8123 Buenos Aires Herald Dec. 16, 1981 FAS Report WR2-82

Key: b.p.d. = barrels per day.

Table 2--People's Republic of China (PRC) Barter Agreements

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
PRC	Brazil	3 yrs	Petroleum	Foodstuffs	1. Brazil sold $9 million China got $3,000,000 in trade per year 2. This a trade under-standing 3. no specific quantities mentioned	Market Report International Commodities Export Comp. Report No 851 March 1, 1978
PRC	Philippines	1979 1 yr	shengli oil worth US $80 million approximately	copper concentrates (US $11m to $22m) Coconut oil (US $11m to $19.25m) Forest Products (US $1m to $2m) PVC resins (US $1.3m to $2.7m)	1. Sold oil at U.S. $9 a barrel whereas world market prices were US $11.59 a barrel so this is a discount price. 2. This is their second agreement and a product of a joint trade committee meeting regularly.	China trade report Vol XVI May 1978
PRC	Sri Lanka	1952 every 5 yrs.	Rice	rubber	1. Total trade is US $60 million. 2. China often sells its rice at below market price and buys rubber at a premium over the Singapore market price for rubber. 3. Annual price adjustment are made so value exchange remains equal. 4. Burma is involved in this Barter arrangement--selling rice to China which will go to Sri Lanka	"A Guide To The Barter In the China Trade" The China Business Review Vol. 6 No. 5 September/October 1979 pp. 10-16

Table 2--PRC Barter Agreements (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
PRC	Yugoslavia	1974 annually to 1978	petrol-coke foodstuffs frozen fish dried fruit honey & cocoa tin hides & skins bauxite	ships & ship engines artificial fertilizers steel goods - pig iron non-ferrous metals electric machine building equipment	1. The agreement is called a trade cooperation 2. In 1974 worth $130 million; in 1976 worth $11 million	Foreign Broadcast Information Service Jan. 16, 1978
PRC	Bulgaria	1 year 1978	rice cotton wool & silk fabrics non-ferrous metals chemicals consumer goods	electric & ice trucks computing equipment medical apparatus fertilizers	the agreement is called a trade and payments agreement	Foreign Broadcast Information Service Jan. 16, 1978
PRC	German Democratic Republic	1978	vegetable and animal raw mat. rice cotton textiles non-ferrous metals	trucks diesel engines machine tools scientific apparatus	the agreement is called a trade and payments agreement	Foreign Broadcast Information Service Jan. 20, 1978
PRC	Poland	1978	tea rice tungoil bristles non-ferrous metals consumer durables like: knitwear, carpets, silk cotton	machines & ind. equip. coal-mining machines ships engines diesel eng. & parts machine tools steel products pharmaceuticals	the agreement is called a trade and payments agreement	Tryburna Luda No. 26

Table 2--PRC Barter Agreements (continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
PRC	Thailand	1978	shengli - crude oil	tapioca flour 150,000 mt. maize 5,000 mt. beans 10,000 mt. rubber 50,000 mt. beans-mung-20,000 gunny sacks-12 Mil.	1. total trade will equal $156 million 2. PRC supplies 3% of Thailand's energy needs	ASEAN Cable Hong Kong 04411 April 10, 1978
PRC	Cuba	1972-75	rice - average 210,000 mt. a year	sugar average 319,000 mt. a year	annual exchange	Statistical Bulletin International Sugar Organization May 1976
PRC	Peru	1976	rice 75,000 mt.	fish meal 40,000 mt.		USDA News 1057-76
PRC	Burma	1981 1 year	rice	rubber		Cable 043340-Peking Feb. 20, 1981 (28)
PRC	Romania	1976-80	cotton rice other food-stuffs machine tools prod. of chemical, textile and food industry ferro-alloys metallurgical coke	machine building industry goods drilling rigs lorries electric diesel locomotives wagons bearings & spare parts prod. of chemical/metallurgical ind.		Foreign Broadcast Information Service May 1976

Table 2 --PRC Barter Agreements (continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
PRC	Egypt	annual renewal	tobacco tea miscellaneous food	cotton - long staple	approx. $100 million worth of trade	Egyptian Gazette December 1981
PRC	India	1978-on annual renewal	petroleum tung tea antimony	tobacco cotton	trade began in the late 1970's and reached substantial value in 1980 and 1981 trade protocol	Attache Report IN-1042 July 1, 1981
PRC	Albania	1961-1980 annual renewal ceased in 1981	petroleum textiles	tobacco cigarettes sage	China was Albania's leading export market during some of the 1970s and a major source of China's tobacco imports before the purchases in India and Zimbabwe in 1980/81.	Michael Kaser and Adi Schwytzer "Albania - A Uniquely Socialist Economy" East European Economies Post--Helsinki A Compendium of Papers submitted to Joint Economic Committee-Congress of US, Aug. 25, 1977 95th Cong/1st Session
PRC	Thailand	1981	shengli crude oil 600 tmt. to 800 tmt. diesel oil 100 tmt. to 200 tmt. jet petrol 50 tmt.	rice 100,000 mt. maize 200,000 mt. black matupe 40,000 mt. rubber 30,000 mt. tapioca flour 50,000 mt. tobacco 2,500 mt.	1. trade protocol--but list of items very specific	British Broadcasting Co., <u>Survey of World Broadcast</u>, Far East, <u>WI1151</u>, pp.A/B1

bartered by developing countries for petroleum include agricultural commodities and minerals whose terms of trade or purchasing power declined relative to petroleum in the 1970-78 period (14).

In this context, it is interesting to note that several of the barter agreements negotiated among developing countries and the USSR include machinery products which also increased in value vis-a-vis commodity exports during the 1960-78 period (tables 3 and 4). Most notable among these agreements is the extensive use of barter agreements by Bangladesh to exchange for manufactured items, jute and jute textiles, commodities which, along with rubber and tea, experienced the greatest decline in purchasing power vis-a-vis manufactures and other commodity exports (table 4) (14).

The terms of trade argument for barter also illustrates one of the motives behind the longstanding PRC-Sri Lanka rice-for-rubber agreement wherein Sri Lanka has traditionally received premium prices for rubber exports and paid less than market prices for rice. The real price of rice in terms of rubber also increased during the 1960-78 period.

Barter agreements to market exportable surpluses are illustrated by Argentina's 1976 agreements to barter wheat with Peru and Venezuela (table 2). Barter agreements in that year were the result of Argentina's aggressive marketing policy to export bumper supplies of wheat. More recently, Thailand has negotiated a number of barter agreements to exchange corn for fertilizer (table 2). These agreements are the result of Thailand's current exportable surpluses of corn and involve prices for corn and fertilizer that are lower than equivalent world market levels. A number of barter agreements negotiated by Peru in 1976 were the result of acute foreign exchange shortages experienced in that year. Barter agreements saved foreign exchange to the extent that Peru received more favorable prices through barter exchanges than could be obtained through cash sales.

Concern for assuring access to energy supplies through barter is illustrated by petroleum agreements as well as Brazil's agreement with the Democratic Republic of Germany to exchange soybeans for coal and potash (table 3). In addition, a recent agreement negotiated by Indonesia and the Philippines involves price cuts on rice exports from the Philippines in exchange for priority in allocation of Indonesia's exportable petroleum supplies (table 1).

A final interesting example to note is the recent barter agreement between Zimbabwe and Zambia in which Zambia plans to export cottonseed to Zimbabwe for crushing (table 3). The oil will be sent back to Zambia and Zimbabwe will keep the cottonmeal in payment for processing. This arrangement is a one-time transaction while Zambia awaits installment of enlarged crushing facilities and, due to the proximity of the countries and problems of foreign exchange convertibility, may be more efficient than a cash exchange.

Samples of agreements which were never formalized and problems behind the negotiations are shown in table 5. Negotiation problems include failure

Table 3--Barter Exchanges of Agricultural Commodities Among Developing Countries

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Ethiopia	Algeria	3 yrs annual renewal	Coffee hides and skins oilseeds pulses spices and other Ag. products	industrial products	1. no specific quantity given 2. first trade agreement between these two countries 3. signed at ministerial level.	Cable 01734 Ethiopia Herald Newspaper
Venezuela	Argentina	1976	iron ore 150,000 mt.	200,000 mt. wheat 100,000 mt. grain, sorghum, or corn	1. prices to be established prior to each monthly shipment 2. Argentina will pay for the rest in cash 3. shipments were delayed due to logistics problems.	"Have Barter will trade *The Economist* 1/24/76
Peru	Argentina	1976-78	copper iron ore cotton	wheat, corn, beef, offal	1. value equalled U.S. $150 million	" "
Peru	Hungary	1977-80	fishmeal cotton coffee minerals	wheat equipment	1. value equals U.S. $40 million	Foreign Agricultural Service PR 6034 November 1976
Peru	Brazil	1977-80	minerals fishmeal	soybeans		Foreign Agricultural Service PR 6012 April 1976
Democratic Republic of Germany	Brazil	1981-83	soybeans and products	coal potash	1. value on each side equals U.S. $100 million	Foreign Agricultural Service BB 0126 December 1980

Table 3 --Agricultural Commodities Among Developing Countries (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Mexico	USSR	Jan. 1981 started with no limit	coffee cocoa lettuce	petroleum extracting equipment textile industrial equipment agricultural tractors	1. this agreement may be a triangle trade pact: the agricultural commodities going to Cuba and the USSR sending the equipment to Spain and in the end swapping customers.	Telephone Conversation with Charles Reese State Department 10/5/81
Egypt	USSR	1962-81 annual renewal	oranges, rice, Jasmine paste, wine, shoes, household items	paper, wood, metals, Industrial machinery	1. the commodity composition has changed as Egypt shifted to cash markets for cotton, but substituting other items has prevented a slide in the value	Rubinstein, Grigor "The African Developing Countries External Economic ties at the turn of the 1980s" Foreign Trade, No. 12, 1981 USSR
Thailand	USSR	12/17/81	corn 100,000 mt.	fertilizer	1. prices for corn are about \$109 mt. and fertilizer \$210 mt. 2. discussed bartering 300,000 mt. corn for 150,000 mt. fertilizer	FAS incoming telegram Dec. 18, 1981 TH 1148
Thailand	Romania	12/25/81 March 1982 to June 1982	corn 200,000 mt.	fertilizer 123,834 mt.	1. corn is priced at \$109 mt. 2. composition 16-20-0 or 20-20-0 at \$210 mt. 3. to be delivered between March 5 and April 30, 1982	TH 1358 FAS Cable Dec. 30, 1980

Table 3--Agricultural Commodities Among Developing Countries (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Bangladesh	Bhutan	9/8/80	dried fish news-print, jute and jute products	forest products and stone boulders	Trade agreement. Signing had been delayed almost 2 years because of Indian displeasure over the agreement is of greater interest to Bhutan because country is eager to reduce dependence on India and it contributes to strengthening ties with other small countries of the region.	Department of State Telegram Oct. 10, 1980
Zambia	Zimbabwe	one time transaction Spring	Cottonseed 10,000 mt. (cottonseed cake)	Cottonseed oil 2,500 mt.	1. barter agreement awaits purchase larger machinery for Zimbabwe 2. Zimbabwe will keep the cotton seed meal in payment for crushing the seeds and return the oil to Zambia 3. no foreign exchange involved 4. each country will pay transport costs within their boundaries.	Times of Zambia Lusaka Nov. 4, 1981 p. 2

Table 3 -Barter Exchanges Among Developing Countries (Continued)

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
India	Uganda	2 yrs Nov. 81 Nov. 83	spices pepper cardamon oilcakes cotton	phosphates super-phophates	1. goods into both countries will be accorded most favored nation treatment 2. simultaneously the two countries signed a memorandum of under-standing providing for technical assistance in agriculture from India to Uganda.	Att. Report ND-1080 12/9/81
Bangladesh	Pakistan	2/8/82 March 1982 to May 1982	jute Agricultural goods	rice 100,000 mt.	Over half of the rice has been paid for by Bangladesh exports; a small amount of cash may be involved in the end with no interest charge. Another source has stated agreement calls for Sindi rice 40 to 45% broken, in bags, $250 to $255 FOB Karachi .	Foreign Agri-Culture Circular-Grains Feb. 16, 1982

Table 4--Bangladesh Barter Agreements

Countries A	Countries B	Time	Commodities Exported A	Commodities Exported B	Remarks	Source
Bangladesh	Czechoslovakia	9/21/77 1977-78 (July-June)	jute, jute goods, tea, hides and skins, specialized textiles electrical cables, telephone cables, glycerine, cellophane, newsprint and paper products, molasses, and ready-made garments.	electrical equipment and accessories, ball and roller bearings, chemicals and dyes, sulphur, scientific hospital and laboratory equipment.	Fourth Bangladesh-Czechoslovakia Barter Trade Protocol. Exchange of commodities $5.6 million each way. Exports from Bangladesh consist of 49% jute and jute goods and 51% non-jute products.	Department of State Airgram #A-126 10/17/77
Bangladesh	Poland	9/24/77 1977-78	jute, jute goods, tea, hides and skins, oil cake, oil bran, cables specialized textiles, rayon yarn, crushed bone, molasses handicraft paper and paper products.	corrugated iron sheets, dyes and chemicals, triple superphosphate, electrical equipment and accessories, tools and work shop equipment, and sulphur.	Third Bangladesh-Poland Barter Trade Protocol. Exchange of commodities $12.9 million in each direction. Exports from Bangladesh consist of 46% jute and jute goods and 54% non-jute products.	Department of State Airgram#A-126 10/17/77
Bangladesh	North Korea	11/28/78 1 yr.	raw jute, jute goods, leather and leather products, newsprint, paper, sugar, soap and detergents, enamelled copper wire.	cement, pig iron, coal magnesia clinker and mild steel billets.	Second Bangladesh-North Korea Trade Protocol. Exchange of commodities amounted to approximately $6,536,000 each way.	Department of State Airgram A-86 12/7/78
Bangladesh	PRC	12/10/79 1979 1 yr.	jute, jute goods, sugar newsprint, paper and pulp, leather, timber, particle board, hard board, rayon, and cellophane.	cement, coal, M.S. billets, pig iron, light machinery, tools.	Third Bangladesh China Barter Trade Protocol. Exchange of commodities $25 million each way.	Department of State Airgram #A-009 12/21/78
Bangladesh	Romania	10/30/78 1978 1979	raw jute, jute goods, tanned and semi-tanned leather, loose and packet tea, newsprint, viscose and rayon yarn, writing and printing paper, cottage industry products, towels, curtain cloth, handicrafts, coir fiber timber, tobacco, drugs and medicine.	mineral oils, soda ash, fertilizers, ball and roller bearings, diesel engines, spare parts for ambulances, tools and workshop equipment, and diesel garbage trucks.	Fifth Bangladesh-Romania Barter Trade Protocol. Exchange of commodities $7.5 million each way.	Department of State Airgram #A-80 11/1/78
Bangladesh	Bulgaria	8/20/79 FY 1980	raw jute, jute goods, leather and leather products, loose and packet tea, readymade garments, specialized textiles, crushed bones, wires and cables, coir fibers, handicrafts, hard-boards, particle boards and cutlery, rayon yarn, gib pipes, safety mathes, super enamelled copper wires.	pig iron, M.S. billets, iron sheets, hot and cold rolled steel strips, electrical equipment, copper, zinc, tin plates, transmitters, forklift trucks, soda ash, pharmaceutical raw materials, medicines, veterinary medicines.	Seventh Bangladesh-Bulgaria Barter Trade Protocol. Exchange of commodities $10 or $11 million each way.	Department of State Airgram # A-66 9/6/79 and Department of State Airgram#A-47 5/21/80

Table 5--Negotiated but Unaccepted Barter Proposals

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Vietnam	Thailand	Rejected	Cement, engines and boat equipment	Rice and maize	Thailand did not think Vietnam would have enough cement in view of its requirements for reconstruction and that Vietnam might have difficulty obtaining spare parts.	FE/W10531A122 10/17/79 (Bangkok home service 0001 gmt 10/6/79)
Brazil	Mexico	Didn't happen	soybeans iron ore	crude oil 100,000 b.p.d.	This agreement was never finalized because Mexico's price was not acceptable. This shipping wouldhave been relatively expensive as only small ships could be used to transport Brazilain exporting in exchange for the crude oil.	Sevine Carlson "Mexico's Oil Trends and Prospects to 1985" May, 1978.

to agree on prices and lack of confidence in available supplies. Table 6 provides some negotiations in progress by Thailand, the USSR, South Korea, Iran, South Africa, and Romania to exchange petroleum and fertilizer for grains and foodstuffs. With recent prices of petroleum declining, it will be interesting to see if more petroleum-exporting countries enter into barter agreements to undercut OPEC agreed prices and to increase market shares in specific countries.

In summary, both developing and centrally-planned countries currently use different types of barter arrangements in international trade for a variety of reasons. Such arrangements are perceived to be useful during times of foreign exchange shortages or when there is a lack of foreign exchange convertibility. Countries also use barter as a marketing tool to export surplus commodities and to segment the demand for their products. Many long-term arrangements between centrally-planned and developing countries are also motivated by concern for strengthening political ties.

Table 6--Barter Agreements with Negotiations in Progress

Countries A	Countries B	Time Frame	Commodities Exported A	Commodities Exported B	Remarks	Source
Thailand	Iran	1982	rice	oil	Iran requested 200,000 mt. wet rice private Thai exporters could not make delivery guaranteed	Cable Bangkok TH 1155 12/8/81
Thailand	USSR	5 year expected to be concluded early 1982 1982-86	cassava roots 5.5 million mt. processed into 2.2 million mt.	fertilizer	cassava annual delivery amounts of 440,000 mt.	Cable Bangkok TH 7493 12/8/81
Thailand	South Korea	1982	cassava	fertilizer		Cable Bangkok TH 1148 12/8/81
South Africa	Romania	1982	corn 500,000 t	fertilizer 200,000t	1. fertilizer may consist of solid urea, limestone amonium nitrate, and some diammonium phosphate. 2. the maize board may collect the difference in price between the higher domestic fertilizer and the less expensive imports.	Cable Pretoria 01297 2/24/82

PART II

U.S. Barter Program

The first effective barter program in the United States was established with the Commodity Credit Corporation Charter Act of 1949 and Section 303 of the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480). This legislation gave the Secretary of Agriculture legal authority to reduce inventories of surplus agricultural commodities owned by the Commodity Credit Corporation (CCC) through barter agreements to obtain strategic and critical materials for a national emergency stockpile or to obtain foreign-produced supplies and services for U.S. agencies operating abroad. The strategic stockpile is currently maintained by the General Services Administration (GSA). The Federal Emergency Management Agency (FEMA) (formerly the Defense Civil Preparedness Agency) performs the policy analysis for stockpile management decisions for the President. The purpose of such a stockpile is to preclude dependence upon foreign sources for strategic materials in times of national emergency (23). FEMA has authority to acquire strategic materials through the Strategic and Critical Material Stockpiling Revision Act of 1979.

The U.S. Barter Program, as operated under Public Law 480 (P.L.-480) from 1954 to 1962, was primarily used to exchange CCC-owned agricultural commodities for strategic materials. Starting in 1963, P.L.-480 barters for strategic materials were curtailed and the U.S. Barter Program was used primarily to procure foreign-produced supplies and services used in construction projects for the Department of Defense and in projects of the Agency for International Development under the authority of the CCC Charter Act. The Barter Program was suspended in 1973 when CCC stocks were largely depleted and the supply of private stocks no longer justified the need for a barter program (28). A second kind of legislative authority, written into the Foreign Assistance Act of 1974, gives the President power to barter foreign assistance and services for strategic materials. No President has used this power. The operation of the U.S. Barter Program from 1950 to 1973 is described below.

Barter Logistics

Contracts for barter were signed between the CCC and private U.S. firms rather than with foreign countries. During the first phase of the program, the Office of Barter (OB) of the U.S. Department of Agriculture advertised and invited private U.S. firms to submit offers to export agricultural products held by the CCC and to import specific strategic materials (31,35). Exporters sold agricultural commodities released to them by the CCC at world market prices and imported strategic materials with the proceeds. Specialists at GSA and other representatives of government agencies reviewed the bids with respect to specifications and prices of strategic materials and then negotiated contracts (19).

Contractors would import the strategic materials to U.S. ports where GSA would take title and transfer them to the stockpile locations. In return, contractors would receive a specified quantity of agricultural commodities from CCC inventories and ship them abroad to countries in

accordance with their contracts. The value of the commodities turned over to the contractors for resale abroad was usually slightly more than the value of the strategic materials. This additional amount compensated the contractor for incurring special financing costs and for assuming risk in exporting commodities to USDA-restricted destinations (17). The entire barter process from start to finish could take 3 months to 3 years. Most contracts for strategic materials ran from 1 to 3 years and were valued at between $1 and $5 million (1,2,24,25). In due course, CCC was reimbursed either by the government agency receiving the materials or by Congress for the cost of the agricultural commodities. The CCC and the OB bore the administrative costs of the program.

Barter contracts were negotiated only with those countries where it was determined the risk of regular U.S. commercial sales displacement was minimum. Each country was assigned a category depending on the trend of their imports of agricultural commodities. These categories were periodically reviewed according to a country's financial position, history of cash U.S. imports, and projected future U.S. imports. Only certain countries were designated "B"-- the category which meant "no barter export restrictions." These countries had poor balance-of-payments positions and had neither been nor were they expected to become a substantial cash market for any of the commodities bartered.

In addition, barter contracts required that (1) proof of export to and import into the designated countries be submitted by the contractor; (2) barter commodities could not be reexported; (3) financial coverage in cash or letters of credit be provided if agricultural commodities were acquired before materials were delivered; (4) materials delivered meet prescribed specifications; and (5) where ocean transport was necessary for delivery of materials, at least 50 percent be shipped on privately owned U.S. flag vessels, if they were available at fair and reasonable rates (cargo preference provision) (32).

Until 1962, most barters were confined to exchanges of CCC-owned commodities for strategic materials. By 1962, changes in planning for wartime needs had reduced stockpile goals and, in many cases, inventories exceeded minimum requirements. Also, CCC inventories had been greatly reduced. Starting in 1963, more emphasis was placed on barter to procure foreign-produced supplies and services for overseas military installations and for projects of AID than to procure strategic materials (1,2,19,30,32). Barter agreements during this time period increasingly relied upon authority in the CCC Charter Act which allowed barter contractors to export private stock commodities (17). Table 7 shows the shift in barter procurements after 1963. (Appendix 2 gives some detail on various barter contracts).

Barter logistics under this revised "offshore" program were similiar to those described above. The Department of Agriculture invited barter offers from private firms to supply foreign-produced goods or services overseas at the request of government agencies. Depending upon the type of agreement, the contractor would use the funds generated by the sale of commodities abroad to purchase supplies and ship them overseas or the contractor would transfer the funds directly to an overseas

installation. If private stocks were used to generate these funds, the CCC paid an exchange value or a "commission" to the contractor.

Assessment of the Barter Program under Public Law 480 and the CCC Charter Act

In the first decade, the intention of the barter program was to export surplus agricultural commodities in order to avoid depression of U.S. producer prices through their release into domestic markets. As mentioned previously, the barter program shifted emphasis in 1963 to offset part of the dollar drain caused by U.S. Government Agencies' spending abroad. Barter was increasingly conducted after that date under the CCC Charter Act which permitted barter of privately-held stocks of commodities.

The value of agricultural commodities exported through barter contracts authorized under Public Law 480 and the CCC Charter Act from 1950 to 1975, based on export market value, was approximately $6.65 billion. One billion eight-four million of agricultural commodities were exchanged for strategic materials and $4.81 billion for offshore procurement of supplies and services. Data in table 7 illustrate the change in the program in 1963 when barter contracts were increasingly used for offshore procurement. The last barter contract for strategic materials was negotiated in 1967 when Australian rutile was exchanged for cotton and other commodities (36). The program was suspended on June 30, 1973 although exchanges of committed materials continued until 1975.

Detailed information on countries and commodities is available for barter contracts authorized under P.L. 480 and is provided in tables 8-12. The total value of agricultural commodities exported from July 1954 to June 1975 through barter contracts under this authority was approximately $1.73 billion. The bulk of these contracts were negotiated prior to 1963 and receipts were largely confined to strategic materials. Wheat, corn and other feedgrains, tobacco, nonfat dry milk, butter, and cotton were the major commodities exported from CCC stocks (table 8).

A total of 123 different countries received agricultural commodity exports from the United States under barter contracts authorized by Public Law 480. The bulk of the agricultural exports under early P.L. 480 barter arrangements went to the European countries and Japan - 72 percent. The Near East and South Asia received 11 percent; Latin America 10 percent; and Africa 3 percent (table 9). The regional distribution of barter exports under both P.L. 480 and, later, the CCC Charter Act, gradually changed. By 1968, developing countries were receiving 76 percent of agricultural exports under barter programs and they received 61 percent during the 1969-75 period (table 10). Developing countries such as the Republic of Korea, Taiwan, Malaysia, the Philippines, and Hong Kong became major markets for agricultural exports during the 1963-75 period when barter was used for offshore procurement of supplies and services.

Receipts of strategic materials, supplies, and services under the P.L. 480 Barter Program totaled $1.68 billion. Approximately 27 percent of barter

Table 7--CCC Barter Program 1/: Value of Agricultural Commodities Exported under Strategic Material and Offshore Contracts, 1950-1975

Fiscal Year	Strategic Contracts	Offshore Contracts	Total Program Exports
	(000$)	(000$)	(000$)
1950	7,782	---	7,782
1951	8,524	---	8,524
1952	42,818	---	42,818
1953	14,113	---	14,113
1954	34,398	---	34,398
1955	124,605	---	124,605
1956	298,387	---	298,387
1957	400,486	---	400,486
1958	99,830	---	99,830
1959	132,255	---	132,255
1960	149,190	---	149,190
1961	143,951	---	143,951
1962	198,369	---	198,369
1963	47,447	12,641	60,088
1964	43,458	68,715	112,173
1965	31,926	98,222	130,148
1966	32,074	196,745	228,819
1967	22,477	273,170	295,647
1968	6,339	295,948	302,287
1969	1,405	267,788	269,193
1970	---	467,836	467,836
1971	---	870,050	870,050
1972	---	875,894	875,894
1973	---	1,088,291	1,088,291
1974	---	293,758	293,758
1975	---	4,692	4,692
Total	1,839,834	4,813,750	6,653,584

--- Indicates no contracts.

1/ Program suspended 6-30-73. Activity after that date reflected phasing out of open contracts.

Source: FAS/GSM/ED/PDD(P&E), January 28, 1982.

Table 8 - Title III, Public Law 480 - Agricultural commodities exported under barter contracts in specified periods 1/

Commodity	Unit	July 1, 1954 through June 30, 1974	Cumulative through June 30, 1975
		(Thousand Units)	
Wheat 2/	Bu	368,471	368,471
Corn	Bu	239,422	239,422
Grain Sorghums	Cwt	70,617	70,617
Barley	Bu	93,007	93,007
Oats	Bu	41,961	41,961
Tobacco	Lb	196,676	196,676
Cotton	Bale	2,513.1	2,513.1
Dry Milk	Lb	129,340	129,340
Butter	Lb	23,183	23,183
Other 3/	MT	808.36	808.36
Total quantity (thousand metric tons)		23,327.25	23,327.25
		(Million dollars)	
Total value		1,732.2	1,732.2

1/ Includes adjustments to previously reported exports. Exports after Dec. 31, 1962, under contracts relying on authority other than Public Law 480 have been excluded.

2/ Includes 17,573 million bushels of wheat acquired from CCC shipped as wheat flour during 1958-62.

3/ Includes rye, soybeans, rice, wool, cheese, flaxseed, linseed oil, dry edible beans, cottonseed oil and meal, and peanuts.

Source: U.S. Department of Agriculture, Foreign Agricultural Service. Food For Peace the 1975 Annual Report of Public Law 480. 1975.

Table 9--U.S. Agricultural Exports Under Public Law 480 Barter Contracts by Region and Major Country, 1954-1975

Region/Major Country	Value Thousands of Dollars	Region Percentage of Total	Country Percentage of Region	Country Percentage of Total
Europe	1,053,386	60.8	100.0	
Belgium	118,447		11.2	6.9
Germany, West	147,635		14.0	8.5
Netherlands	143,298		13.6	8.3
United Kingdom	305,219		29.0	17.6
Other	338,787		32.2	19.6
Africa	55,163	3.2	100.0	
Canary Is.	14,020		25.4	.8
S. Africa	13,315		24.1	.8
Other	27,828		50.5	1.6
Near East & South Asia	185,752	10.7	100.0	
India	74,639		40.2	4.3
Israel	47,094		25.3	2.7
Turkey	17,585		9.5	1.0
Other	46,434		25.0	2.7
Far East & Pacific	263,808	15.2	100.0	
Japan	193,672		73.4	11.2
Philippines	15,760		6.0	.9
Taiwan	16,042		6.1	.9
Other	38,334		14.5	2.2
Latin America	170,593	9.9	100.0	
Brazil	63,446		37.2	3.7
Colombia	15,401		9.0	.9
Mexico	19,659		11.5	1.2
Peru	32,968		19.3	1.9
Other	39,119		23.0	2.3
North America	3,484	.2	100.0	
Other	13		100.0	
Total	1,732,199	100.0		100.0

Source: U.S. Department of Agriculture, Foreign Agricultural Service. Food For Peace the 1975 Annual Report of

imports were from Africa, 21 percent from Latin America, 19 percent from Europe, 14 percent from the Near East and South Asia; and 10 percent from the Far East and Pacific, and 9 percent from North America (table 11). Dollar values for imports of materials, supplies, and services and exports of agricultural products are not equal by country because transactions were not required to be exclusively bilateral until 1968. Therefore, barter contracts to deliver strategic materials, supplies, or services could be negotiated with one country and agricultural exports could be delivered to another country until that date (32).

Table 11 lists the major countries under which barter contracts for strategic materials, supplies, and services were rendered from 1954 to 1975. The South African Republic leads in percentage of barter contracts at 14 percent. Canada, India, Jamaica, and Turkey follow. These countries are of interest because they indicate the range of countries that could supply the United States with strategic materials in the event of a new barter program. The United States was provided with a variety of strategic materials described in table 12.

The P.L. 480 Barter Program was a secondary method for moving agricultural commodities into world markets in return for strategic materials and other supplies. The prices for agricultural commodities and materials were relatively low in the world market during this period. At the same time, there were several benefits from the program:

--To the extent that these bartered materials were additional sales, that is, they did not replace commercial sales, barter fostered the development of new markets in some countries.

--The program provided foreign countries with a method of receiving needed commodities in exchange for materials and other items which could not be sold on world markets to generate foreign exchange.

Table 10.--U.S. BARTER EXPORTS BY DESTINATION

Destination	July 1954-June 1957	July 1957-December 1962	January 1963-June 1968	July 1969-June 1975
	Dollars (000's)	Dollars (000's)	Dollars (000's)	Dollars (000's)
Western Europe and Japan	753,282	430,046	1/ 257,845	1,510,050
Others	70,197	321,631	838,518	2,359,674
Total	823,479	751,677	1,096,363	3,869,724

1/ 65 percent represents exports of commodities, particularly tobacco, approved after USDA determination that barter exports would be addtional to U.S. commercial sales.

Source: 17 and unpublished data FAS/GSM/ED/PDD.

Table 11--Value of Materials, Equipment, and Services Received Under Public Law 480 Barter Contracts by Region and Major Country, 1954-1975

	Value Thousands of Dollars	Region Percentage of total	Country Percentage of Region	Country Percentage of total
Europe	324,062	19.3	100.0	
Belgium	24,012		7.4	1.4
France	91,914		28.4	5.5
Germany West	56,168		17.3	3.4
Italy	24,766		7.6	1.5
Norway	13,863		4.3	.8
United Kingdom	67,073		20.7	4.0
Yugoslavia	17,190		5.3	1.0
Other	29,096		9.0	1.7
Africa	452,328	26.9	100.0	
Ghana	20,220		4.5	1.2
Mozambique	21,783		4.8	1.3
Rhodesia	35,218		7.8	2.1
South Africa Rep.	176,131		38.9	10.5
Zaire	51,939		11.5	3.1
Other	147,037		32.5	8.8
Near East & South Asia	230,114	13.7	100.0	
India	125,238		54.4	7.5
Turkey	92,139		40.1	5.5
Other	12,737		5.5	.8
Far East & Pacific	169,696	10.1	100.0	
Australia	34,365		20.2	2.1
Japan	94,151		55.5	5.6
Philippines	27,252		16.1	1.6
Other	13,928		8.2	.8
North America	154,288	9.2	100.0	
Canada	141,797		91.9	8.4
Other	12,491		8.1	.8
Latin America	348,342	20.7	100.0	
Brazil	84,239		24.2	5.0
Jamaica	94,773		27.2	5.6
Mexico	70,778		20.3	4.2
Surinam	30,931		8.9	1.8
Other	67,621		19.4	4.0
Other	1,698	.1		
Total	1,680,528	100.0	100.0	

Source: U.S. Department of Agriculture, Foreign Agricultural Service. Food For Peace the 1975 Annual Report of Public Law 480. 1975.

TABLE 12
Title III, Public Law 480--Materials, equipment, and services received under barter contracts, July 1, 1954, through June 30, 1975

Country and Area	Procurements for U.S. Government agencies 1/	Stockpile materials 2/
Europe:		
Austria		Aluminum oxide (abrasive grain), diamond (stones).
Belgium	Supplies and services	Cadmium, cobalt metal, diamond (stones), ferromanganese, lead, selenium, waterfowl feathers and down, zinc.
Denmark	Supplies and services	
Finland		Copper billets.
France	French housing	Aluminum oxide (abrasive grain), aluminum oxide (crude), chromium metal (exothermic), diamond dies, ferrochromium, ferromanganese, manganese ore (battery grade), palladium, silicon carbide, thorium nitrate, waterfowl feathers and down.
Germany, West	Caribbean cable, fertilizer, supplies and services	Aluminum oxide (abrasive grain), aluminum oxide (crude), bismuth, cadmium, chromium metal (exothermic), diamond (stones), ferrochromium, ferromanganese, fluorspar, lead, selenium, zinc.
Italy	Fertilizer	Cadmium, ferrochromium, fluorspar, mercury, zinc.
Netherlands		Chromium metal (exothermic), diamond (stones), palladium, platinum, waterfowl feathers and down, zinc.
Norway		Ferrochromium, ferromanganese, zinc.
Spain		Fluorspar, lead, mercury.
Sweden		Ferrochromium, lead, selenium.
Trieste	Fertilizer	
United Kingdom	Fertilizer	Antimony, bismuth, cadmium, celestite, chromium metal (exothermic), diamond (bort), diamond (stones), ferrochromium, ferromanganese, lead, palladium, platinum, ruthenium, tin (pig).
Yugoslavia	Supplies and services	Antimony, bismuth, ferrochromium, ferromanganese, lead, zinc.
Unspecified European countries	Supplies and services	
Africa:		
Angola		Manganese ore (metallurgical), mica.
Botswana		Asbestos (chrysotile), manganese ore (metallurgical).
Ghana		Diamond (stones), ferromanganese, manganese ore (battery grade), manganese ore (metallurgical).
Malagasy Republic		Beryllium (copper master alloy), graphite, mica.
Malawi		Beryllium (copper master alloy).
Morocco		Manganese ore (battery grade), manganese ore (chemical).
Mozambique		Beryl ore, beryllium (copper master alloy), beryllium metal billets, ferrochromium, ferrochromium-silicon, zinc.
Nigeria		Columbite.
Rhodesia		Asbestos (chrysotile), beryllium (copper master alloy), beryllium metal billets, chromite (metallurgical), cobalt metal, copper, ferrochromium, ferrochromium-silicon, mica, zinc.
South Africa, Republic of		Antimony, asbestos (amosite), asbestos (chrysotile), asbestos (crocidolite), beryl ore, beryllium (copper master alloy), beryllium metal billets, chromite (chemical), diamond (stones), ferrochromium, ferrochromium-silicon, fluorspar, lead, manganese metal (electrolytic), manganese ore (metallurgical), palladium, platinum, rare earths, thorium nitrate.
Tanzania		Mica.
Uganda		Beryllium (copper master alloy).
Zaire, Republic of		Beryllium (copper master alloy), cadmium, diamond (bort), diamond (stones), manganese ore (metallurgical), tin (pig), zinc.
Unspecified African countries		Beryl ore, diamond (bort), diamond (stones), mica.
Near East and South Asia:		
Greece		Manganese ore (battery grade).
India		Beryl concentrates, beryl ore, beryllium (copper master alloy), beryllium metal billets, ferrochromium, ferrochromium-silicon, ferromanganese, manganese metal (electrolytic), manganese ore (metallurgical), mica, thorium nitrate.
Israel		Diamond (stones).
Pakistan		Beryllium (copper master alloy).
Sri Lanka		Graphite.
Turkey		Boron minerals, chromium metal (electrolytic), chromite (metallurgical), ferrochromium, ferrochromium-silicon.
Far East and Pacific:		
Australia		Asbestos (crocidolite), beryllium metal billets, lead, rutile, zinc.
Japan	Cotton yarn, fertilizer, raw silk, zirconium sponge	Cadmium, chromium metal (electrolytic), ferrochromium, ferromanganese, iodine (crude), raw silk, selenium, silk bisu and/or lap waste, titanium sponge, zinc.
Korea	Ordnance, raw silk	Tungsten carbide powder.
New Caledonia		Ferrochromium.
Philippines		Chromite (refractory), chromium metal (electrolytic), ferrochromium, ferrochromium-silicon.
Taiwan		Waterfowl feathers and down.
Thailand		Tin (pig).

TABLE 12
Title III, Public Law 480— Materials, equipment, and services received under barter contracts, July 1, 1954, through June 30, 1975

North America:		
Canada		Aluminum oxide (abrasive grain), aluminum oxide (crude), asbestos (chrysotile), cadmium, ferrochromium, ferromanganese, lead, palladium, platinum, selenium, silicon carbide, waterfowl feathers and down, zinc.
United States	Fertilizer, soybeans	
Latin America:		
Argentina		Beryl ore, beryllium (copper master alloy), beryllium metal billets, mica.
Bolivia		Cadmium, lead, zinc.
Brazil		Beryl ore, beryllium (copper master alloy), beryllium metal billets, diamond (stones), ferromanganese, manganese ore (metallurgical), mica, quartz crystals.
Chile		Ferromanganese, iodine (crude), lead.
Colombia		Platinum.
Cuba		Chromite (refractory), ferrochromium-silicon.
Guyana		Bauxite.
Haiti		Bauxite.
Jamaica		Bauxite.
Mexico		Antimony, bismuth, cadmium, celestite, fluorspar, lead, zinc.
Peru		Bismuth, cadmium, lead, zinc.
Surinam		Bauxite.
Venezuela		Diamond (stones).
Unspecified sources		Beryllium metal billets

1/ Materials, goods, equipment, and services procured for U.S. Government agencies under contracts entered into prior to January 1, 1963.
2/ Materials acquired for the National and supplemental stockpiles.

Source: U.S. Department of Agriculture, Foreign Agricultural Service. Food For Peace the 1975 Annual Report of Public Law 480. 1975.

Other legislative Mandates to Barter

Recent articles in newspapers reflect a growing interest in several aspects of barter. The number of counter-trade arrangements between private U.S. businesses and centrally-planned countries has led some industry analysts to predict that barter arrangements will account for 20 percent of world commerce in the 1980's (6). Other reports emphasize the scarcity of strategic materials and concern for an escalation of a "resource war" with Soviet-influenced developing countries. The latter concern has been present in the U.S. Congress (7,10,13,15).

Representative Clarence Miller (R-OH) introduced a "barter clause" in an amendment to the Foreign Assistance Act of 1974 that provides the President with authority at his discretion to barter foreign aid for raw materials in times of short supply. This amendment is in addition to the barter authority under Public Law 480 and the CCC Charter Act. Many countries currently receiving foreign assistance through P.L. 480 programs or other assistance programs would be involved because they could supply part of the materials needed in the U.S. strategic stockpile (11,20,22,29,32).

Opponents claim that it would be unlikely that circumstances would arise where a "barter" approach to concessional economic assistance would serve U.S. interests (9). A program to barter concessional economic assistance for strategic materials would not necessarily guarantee advanced assurances of supply of strategic materials for the U.S. because the value of materials required to fulfill strategic stockpile goals is much greater than the amount of U.S. foreign assistance to any specific developing country that provides strategic materials (19). Moreover, a new office would be needed, thus increasing bureaucracy in trade, and add administrative costs to the aid program.

Subsection C of the Strategic and Critical Materials Stockpiling Act of July 30, 1979, (P.L. 96-41) gives the President a mandate to "encourage the use of the barter." No President has ever activated a barter program under this legislation.

Potential Trading Partners for a U.S. Barter Program

The Federal Emergency Management Agency (FEMA) announced a revised list of strategic materials for the National Defense Stockpile Inventory on May 2, 1980. This list, which contains 61 family groups and individual materials, is used to determine potential barter partners if a barter program to exchange agricultural commodities for strategic materials were reactivated (see appendix 3, table 1 for the list of materials). U.S. stockpile goals and present inventory levels for selected strategic materials are shown in table 15.

One method of selecting potential barter partners for the United States is to examine countries that import quantities of commodities currently held in CCC uncommitted stocks and that export strategic materials which are in deficit in the strategic stockpile. These countries are also shown in table 15. It is assumed that agricultural commodities could be used as the entire payment for strategic materials or as partial payment with the remainder in cash. Therefore, agricultural commodity import quantities are not matched with U.S. strategic material requirements. Other agricultural commodities that could be used in barter arrangements, but are not currently held in CCC stocks, are provided in appendix 3, table 2.

Commodities currently held in CCC uncommitted inventories include nonfat dry milk, cheese, butter, wheat, corn, upland cotton, extra long staple cotton, grain sorghum, barley, rye, sugar beets, and honey. Among potential partners, Jamaica, Brazil, Thailand, Peru, USSR, PRC, Philippines, Venezuela, Turkey, and Indonesia have current barter agreements that exchange various materials and supplies for food or have entered into such agreements in the recent past. These countries could supply a variety of strategic materials including columbium concentrates, bauxite, copper, fluorspar, lead, manganese, rubber, zinc, platinum, tantalum, and antimony. Brazil, Jamaica, Mexico, Canada, Japan, Australia, Turkey, South African Republic, and the United Kingdom were also important suppliers of strategic materials under the past U.S. Barter Program.

In addition to being suppliers of strategic materials three countries, Brazil, Thailand, and Peru, have incurred significant trade deficits in recent years. These countries could have possible interest in barter agreements since lack of foreign exchange earnings has been a key factor behind barter agreements in the past. The three countries are important export markets for U.S. dairy products, cotton, and other commodities held in CCC stocks. Recent sharp declines in the price of copper and other minerals exported by Peru could result in renewed interest in barter agreements for grains and dairy products similar to the period in 1976 when Peru previously bartered. Indonesia also recently announced a policy to require foreign companies based in Indonesia and awarded government contracts, to export surplus goods specified by the government. One such surplus commodity is rubber which is in deficit in the U.S. strategic stockpile.

TABLE 13--Strategic Materials, Country Import Sources, and CCC Commodities

Material	Stockpile Status As of 11/30/80 a/ Goal	Stockpile Status As of 11/30/80 a/ Total Inventory	U.S. Import Sources	Import Sources Which Are Potential b/ Users of CCC Uncommitted Stocks
Bauxite (thous. metric dry tons)	Abrasive grade 762	-	Jamaica	wheat, corn, cheese
	metal grade,		Guinea	nonfat dry milk
	Jamaica type 21337	9001	Australia	cheese
	Surinam type 6198	5385		
	refractory grade 1422	177		
Columbium concentrate (thou. lbs. Columbium content)	5,600	1780	Brazil	wheat, nonfat dry milk, corn
			Canada	cheese, nonfat dry milk, corn
			Thailand	wheat, nonfat dry milk
Copper (thou. metric tons)	907	26	Chile	corn, wheat
			Canada	cheese, nonfat dry milk, corn
			Zambia	corn
			Peru	cotton, ex. linters, wheat, grain sorghum, corn, nonfat dry milk
Fluorspar, Acid Grade (thou. short tons)	1,400	896	Mexico	cotton, ex. linters, grain sorghum, corn, wheat, barley, nonfat dry milk
			Rep. of S. Africa	corn, sorghum, nonfat dry milk, cheese
			Spain	barley
			Italy	barley, corn
Fluorspar, Metallurgical Grade (thou. short tons)	1,700	412	Mexico	Cotton, ex. linters, nonfat dry milk grain sorghum, corn, wheat, barley, nonfat dry milk, cheese
			Rep. of S. Africa	corn, sorghum
			Spain	barley

a/ Source: (11, 33).

b/ Source: Foreign Agriculture Service Data Base and Agricultural Stabilization and Conservation Service, CCC Commodity Inventory Activity Report, unpublished data.

TABLE 13--Strategic Materials, Country Import Sources, and CCC Commodities (Continued)

Material	Stockpile Status As of 11/30/80 Goal	Total Inventory	U.S. Import Sources	Import Sources Which Are Potential Users of CCC Uncommitted Stocks
Iron Ore	-	-	Canada	cheese, nonfat dry milk, corn,
			Venezuela	wheat, corn, grain sorghums, cheese
			Brazil	wheat, nonfat dry milk, corn
			Liberia	wheat, corn, cheese
Lead (thou. metric tons)	998	545	Honduras	wheat, corn, nonfat dry milk
			Peru	grain sorghum, cotton, ex. linters, wheat, corn, nonfat dry milk
			Australia	cheese
Manganese (thou. short tons)	Battery: Natural ore 62	248	Gabon	---
	synthetic dioxide 25	3	Brazil	wheat, nonfat dry milk, corn
	Chemical ore 170	221		
	Metallurgical ore 2700	3,379	Australia	cheese
	Ferro manganese 439 High carbon	600	Rep. of S. Africa	sorghum, corn, nonfat dry milk, cheese
Nickel (thou. short tons of metal)	200	-	Canada	cheese, nonfat dry milk, corn
			Norway	wheat, grain sorghums, corn
			Dominican Rep.	wheat
Platinum Group, Iridium (thou. troy ounces)	98	17	Rep. of S. Africa	corn, sorghum, nonfat dry milk, cheese
			USSR	wheat, barley, corn
			United Kingdom	wheat, corn, sorghum
Platinum Group, Palladium (thou. troy ounces)	3,000	1255	Rep. of S. Africa	corn, sorghum, nonfat dry milk, cheese
			USSR	wheat, barley, corn
			United Kingdom	wheat, corn, sorghum
Rubber (thou. long tons)	850	119	Indonesia	wheat, corn, nonfat dry milk, cheese
			Malaysia	wheat, corn, cheese
			Liberia	wheat, corn, cheese
Tantalum Minerals (thou. tantalem content)	8,400	2551	Thailand	wheat, nonfat dry milk
			Canada	cheese, nonfat dry milk, wheat, rice, corn

TABLE 13--Strategic Materials, Country Import Sources, and CCC Commodities (Continued)

Material	Stockpile Status As of 11/30/80		U.S. Import Sources	Import Sources Which Are Potential Users of CCC Uncommitted Stocks
	Goal	Total Inventory		
Tin (thous. metric tons of metal)	Pig tin 43	204 (of which 36 is authorized for disposal)	Malaysia	wheat
			Bolivia	wheat
			Indonesia	wheat, nonfat dry milk, corn, cheese
			Thailand	wheat, nonfat dry milk
Titanium Sponge (thou. short tons)	195	32	Japan	corn, wheat
			USSR	wheat, barley, corn
			United Kingdom	wheat, corn, sorghum
			China PRC	corn, wheat
Zinc (thou. metric tons of metal)	1,293	341	Canada	cheese, nonfat dry milk, corn
			Honduras	wheat, corn, nonfat dry milk
			Peru	cotton, ex. linters, wheat, corn, grain sorghum, nonfat dry milk
Other non-ferrous metals				
Antimony (thou. short tons of metal)	36	41	China PRC	corn
			Mexico	cotton, ex. linters, grain sorghum, corn, wheat, barley
			Rep. of S. Africa	corn, sorghum, nonfat dry milk, cheese
Cadmium (thou. metric tons of metal)	5	3	Canada	cheese, nonfat dry milk, corn
			Australia	cheese
Chromium (thou. short tons gross weight)				
- Chromite:				
Metallurgical-grade	3,200	2,488	Rep. of S. Africa	corn, sorghum, nonfat dry milk, cheese
Chemical-grade	675	242	Philippines	corn, wheat
Refractory-grade	850	391	USSR	wheat, barley, corn
Chromium ferroalloys	350	780	Turkey	
Chromium metal	20	4		
Cobalt (thou. short tons of metal)	43	20	Zaire	wheat, nonfat dry milk
			Belgium	corn

TABLE 13--Strategic Materials, Country Import Sources, and CCC Commodities (Continued)

Material	Stockpile Status As of 11/30/80		U.S. Import Sources	Import Sources Which Are Potential Users of CCC Uncommitted Stocks
	Goal	Total Inventory		
Mercury (76-pound flasks of metal)	10,500	191,391	Spain	barley
			Algeria	barley
			Italy	corn, barley
			Yugoslavia	barley, corn, sorghum

Any barter program of the United States will have to operate under the rules for release of CCC-held stocks in the Agriculture and Food Act of 1981. The CCC cannot sell stocks of wheat or feed grains at less than 110 percent of the release level from the farmer-owned reserve. The CCC minimum sales price for cotton cannot be less than 115 percent of the loan rate. These provisions for CCC release of commodities could potentially affect the types of commodities bartered and the countries interested in barter when release prices exceed world market levels. Dairy products as well as rice, grain sorghum, barley, rye, and honey, can be exported at not less than prevailing world market prices. The law states clearly that bartered agricultural commodities may not disrupt world market prices.

In addition, barter arrangements cannot replace cash sales or interfere with long term commercial markets. Reactivation of a barter program would also involve specification of procedures for repayment of commodities released from CCC stocks and would entail additional administrative costs to manage the program.

Summary and Conclusions

This paper has presented a discussion of barter issues and U.S. agricultural trade. Barter agreements for both nonagricultural and agricultural commodities are currently used in trade among developing and centrally-planned countries for a variety of reasons. These reasons include lack of convertible foreign exchange, export of surplus agricultural commodities, and access to supplies. Because supplies and prices are negotiated in such agreements, countries often perceive their trade interests to be improved through barter. It must be emphasized that barter agreements currently account for a very small part of total agricultural trade.

The United States operated a barter program from 1950 to 1973 in which agricultural commodities were traded for strategic materials, foreign-produced supplies, and services. Results of this paper indicate that, if there is renewed interest in a barter program to exchange agricultural commodities for strategic materials, several developing countries have the potential to be barter partners with the United States.

Bibliography

1. "The Barter Program." A Report to the President by the Executive Stockpile Committee. August 22, 1962.

2. "Barter Program Recommendations of the Executive Stockpile Committee Approved by the President." Unpublished paper. USDA/FAS/OBSM, January 15, 1963.

3. "Barter" The Washington Agricultural Record. Vol. 11, No. 38, October 9, 1981.

4. "Bartering When Beans Mean Machines," Industry Week, Vol. 192, No. 7, March 28, 1977, p. 78.

5. Caves, Richard E. "The Economics of Reciprocity: Theory and Evidence on Bilateral Trade Agreements" in W. Sellekaertsed International Trade and Finance. White Plains: International Arts and Sciences Prices, 1974, pp. 17-54.

6. Chesser, Thomas M. "Barter Becomes Big Business in World Trade." The New York Times, July 26, 1981, p. F15.

7. Council on Economics and National Security. A White paper. The Resource War and the U.S. Business Community: The Case for a Council on Economics and National Security. 3rd Printing. Washington, D.C.: National Strategy Information Center, Inc. October 1980.

8. Dornberg John. "Big Slump in East-West Trade." Dan's Review, Vol. 111, No. 4, April, 1978.

9. Dunn, J.M. "Letter to Congressman Miller," from Executive Director, Council on International Economic Policy. April 1, 1976.

10 Dunne, Nancy. "Back to Barter," Financial times November 18, 1981, p. 27.

11. Federal Emergency Management Agency. Stockpile Report to the Congress. April-September, 1980.

12. Holliday, George D. "Barter Agreements in International Trade." Unpublished Paper. Congressional Research Service. August 15, 1978.

13. Greiff, Peter. "Attaching Strings to Oil Sales." Business Venezuela. No. 73, May/June, 1981, pp. 69-76.

14. Jabara, Cathy L. Terms of Trade for Developing Countries: A Commodity and Regional Analysis. Foreign Agricultural Economic Report 161, USDA, December 1980.

15. James, Daniel. "Our Alarming Vulnerability to Minerals Mischief." The Washington Star. March 3, 1981.

16. Ingelies, Outters-Jaeger. The Development Impact of Barter in Developing Countries. Development Center. Organization for Economic Cooperation and Development. Paris, 1979.

17. Nollmeyer Jean B. "USDA's Barter Program-How it's Changed, What it's Doing" Foreign Agriculture., Vol. VI, no. 40, September 30, 1968, p.2-4.

18 Office of the White House Press Secretary. "Statement by the President" Santa Barbara, California November 24, 1981.

19. Parsky, Gerald L. Private letter from Assistant Secretary of the Treasury Gerald L. Parsky to Congressman Clarence E. Miller, House of Representatives. July 28,, 1975.

20. Pendleton, Edmund. "Barter: Prodigal Son of Stockpiling?" Journal of Commerce. November 28, 1979.

21. Rashid, A. "Cotton Barter Deals Hurt Pakistan's Export Trade." Cotton Trade Journal. International Edition. No. 38, 1971, pp. 204-208, 215.

22. Reese, Charles. Private communication with Mr. Charles Reese, U.S. Department of State. October 1981.

23. Sambunaris, Georgia. "Strategic Minerals and the Third World." Agenda. Agency for International Development. July-August, 1981.

24. Saylor, Thomas. "Agricultural Trade Outlook," given at 1981 Agricultural Outlook Conference, Session #4, U.S. Department of Agriculture, Nov. 17, 1980, Washington, D.C.

25. "A Short History of the Barter of Agricultural Commodities." Unpublished paper. U.S. Department of Agriculture, 1962.

26. Snyder, Glenn A. Stockpiling Strategic Materials: Politics and National Defense. New York: Harper and Rome, 1966.

27. Stern, Ernest and Wouter Tims. "The Relative Bargaining Strengths of the Developing Countries." American Journal of Agricultural Economics. Vol. 57, No. 2. May, 1975, pp. 225-236.

28. "Suspension of Public Law 480 Barter Program for Tobacco." Hearing before the Subcommittee on Tobacco of the Committee on Agriculture. House of Representatives, 93rd, 1st Session. May 22, 1973. Serial No. 93-V.

29. U.S. Congress, House of Representatives. Agricultural trade Development and Assistance Act of 1954, as Amended, through 1979. Public Law 480, Eighty third Congress. July 10, 1954.

30. ______________________________. Amending the Strategic and Critical Materials Stockpiling Act, and for Other Purposes. Report to accompany H.R. 4895. Ninety-fifth Congress, 1st Session. March 22, 1977.

31. U.S. Department of Agriculture. Export Marketing Service. The Barter Export Program. What It Is - How it Works, A question And Answer Guide. Washington, D.C. May 1970.

32. ______________________________. Food for Peace. 1968. The 1968 Annual Report of Public Law 480. Foreign Agricultural Service.

33. U.S. Department of the Interior. Mineral Commodity Summaries 1981. Bureau of the Mines (with resource information by the Geological Survey), 1981.

34. Verzaviu, Pompiliu. Countertrade Practices in East Europe, the Soviet Union and China: An Introductory Guide to Business. Office of East-West Trade Development, International Trade Administration, U.S. Department of Commerce. April 1980.

35. Waddington, Debbie. "Are Minerals the "Oil" Issues of the Eighties?" Washington Insight Series. Vol. IV, No. 2. Washington: Bradley, Woods and Company. January 9, 1981.

36. Woodling, Francis A. Statement of Francis A. Woodling, Deputy Assistant Sales Manager, Office of General Sales Manager, before the House Committee on Armed Services Subcommittee on Seapower and Strategic and Critical Materials. March 1977.

Appendix 1

This appendix describes the four basic legislative acts which permit the United States to barter.

Legislative Acts Concerning Barter

Charter of Commodity Credit Corporation
15 U.S. 714 b (h)

Section 301. Notwithstanding any other provision of law, the Commodity Credit Corporation is authorized, upon terms and conditions prescribed and approved by the Secretary of Agriculture, to accept strategic and critical materials produced abroad in exchange for agricultural commodities acquired by the Corporation.

Strategic and critical materials acquired by the Commodity Credit Corporation in exchange for agricultural commodities shall, to the extent approved by the President, be transferred to the Stock Pile provided for in the Strategic and Critical Materials Stock Piling Act.

Nothing contained herein shall limit the authority of the Commodity Credit Corporation to acquire, hold, or dispose of such quantity of strategic and critical materials as it deems advisable in carrying out its function and protecting its assets.

P.L. 480

Agricultural Trade Development and Assistance Act of 1954

Section 310. "The Secretary shall, whenever he determines that such action is in the best interest of the United States, and to the maximum extent practicable, barter or exchange agricultural commodities owned by the Commodity Credit Corporation for (a) such strategic or other materials of which the United States does not domestically produce its requirements and which entail less risk of loss through deterioration or substantially less storage charges as the President may designate, or (b) materials, goods or equipment required in connection with foreign economic and military aid and assistance programs, or (c) material or equipment required in substantial quantities for offshore construction programs. He is hereby directed to use every practicable means, in cooperation with other Government agencies, to arrange and make, through private channels, such barters or exchanges or to utilize the authority conferred on him by Section 4(h) of the Commodity Credit Corporation Charter Act, as amended in 15 USC 714 b to make such barters or exchanges. In carrying out barters or exchanges authorized by this section, no restrictions shall be placed on the countries of the free world into which surplus agricultural commodities may be sold, except to the extent that the Secretary shall find necessary in order to take reasonable precautions to safeguard usual marketings of the United States and to assure that barters or exchanges under this Act will not unduly disrupt world prices of agricultural commodities or replace cash sales for dollars. The Secretary may permit the domestic processing of raw materials of foreign origin. The Secretary shall endeavor to cooperate

with other exporting countries in preserving normal patterns of commercial trade with respect to commodities covered by formal multilateral international marketing agreements to which the United States is a party. Agencies of the United States Government procuring such materials, goods, or equipment are hereby directed to cooperate with the Secretary in the disposal surplus agricultural commodities by means of barter or exchange. The Secretary is also directed to assist, through such means as are available to him, farmers' cooperatives in effecting exchange of agricultural commodities in their possession for strategic materials. Barter or exchange of agricultural commodities under clause (a) of this section shall be limited to exchange for materials which originate in the country to which the surplus agricultural commodities are exported and to arrangements which will prevent resale or transshipment of the agricultural commodities to other countries. (7 USC 1692.)

Foreign Assistance Act of 1974

Section 32. Exchanges of Certain Materials. (a) Notwithstanding any other provision of law, whenever the President determines it is in the United States national interest, he shall furnish assistance under this act or shall furnish defense articles or service under the Foreign Military Sales Act pursuant to an agreement with the recipient of such assistance, articles, or services which provides that such recipient may only obtain such assistance, articles, or services in exchange for any necessary or strategic raw material controlled by such recipient. For the purposes of this section, the term necessary or strategic raw material includes petroleum, other fossil fuels, metals, minerals, or any other natural substance with the President determines is in short supply for the United States. (b) The President shall allocate any necessary or strategic raw materials transferred to the United States under this section to any appropriate agency of the United States Government for stockpiling, sale, transfer, disposal, or any other purpose authorized by law. (c) Funds received from any disposal of materials under subsection (b) shall be deposited as miscellaneous receipts in the United States Treasury.

Strategic and Critical Materials Stockpiling Act of July 30, 1979

Subsection 6(c) (1) of P.L. 96-41

The President shall encourage the use of barter in the acquisition of strategic and critical materials for, and the disposal of materials from the stockpile when acquisition or disposal by barter is authorized by law and it is practical and in the best interest of the United States.

The Senate Armed Services Committee explains in its section-by-section analysis of the bill (Report No. 96-201 of June 6, (1979) that:

Subsection 6 (c) required and encourages the use of barter as a means of accomplishing stockpile transactions. No new barter authority is created. The Commission is seeking to revitalize the barter program which has in the past resulted in the acquisition of stockpile materials in trade for surplus agricultural commodities, excess defense supplies, etc., in accordance with other provisions of law.

Appendix 2

This appendix gives detailed information about previous barter exchanges.

Specific Barter Contracts and Payments Agreements

The first barter transaction began on March 10, 1950 when the CCC cotton was exchanged for chrome ore from Turkey (36). By June 1952, CCC barter arrangements succeeded in acquiring almost $43 million worth of strategic materials for the national stockpile (26).

As CCC-held surpluses increased the Secretary of Agriculture received authority in 1956 to increase the barter program to expand the list of agricultural products to receive something of value in exchange. This new stockpile--a supplemental stockpile--did not have a national security value in a military sense but it did include material resources that were "nonrenewable" (2).

In 1961 and 1962 the Executive Stockpile Committee and the Foreign Agricultural Service looked at the barter program to date and made some recommendations that would shift the emphasis of the program for the sixties. Basically barter arrangements were helpful in disposing of agricultural surpluses.

Multilateral barter arrangements provided U.S. wheat to Egypt while the Congo sent diamonds to the United States. Foreign aid and military procurement were involved when Thailand sent cement to Vietnam and the U.S. sent wheat to the Philippines (17). These transactions involved the "off-shore" barter program. Multilateral arrangements existed until 1968 when barter was limited to bilateral arrangements.

Barter activity slowed in the late 1960's until the final barter contract involving strategic materials was signed in 1967 when Australian rutile was exchanged for cotton and other commodities from CCC inventories. The rutile was transferred to the Supplemental Stockpile and the CCC was reimbursed by Congressional appropriation (36).

The Department of Agriculture also used barter as one of several export promotion programs. The cotton and tobacco program continued through 1973 with tobacco bartered at a reduced export price by one-half cent to a maximum of 2 cents per pound. Earlier these supports made U.S. tobacco competitive in world markets but on July 1, 1973 the U.S. tobacco price was double the world price and the small barter incentives did not influence sales nor justify the program and administrative expenses. There upon the U.S. Department of Agriculture announced the suspension of the Public Law 480 Barter program for tobacco, and discontinued the CCC weekly invitations for barter offers (27).

In a speech, Francis A. Woodling, Deputy Assistant Sales Manager of the Office of General Sales Manager in the Department of Agriculture, before the Subcommittee on Seapower and Strategic and Critical Materials of the House Committee on Armed Services in May 1977, discussed the USDA Barter Program for strategic materials that started in 1953 and was suspended in 1973 (36). He made an important point that the CCC did not enter into

contracts with foreign governments but with U.S. firms to deliver to CCC named strategic materials meeting stockpile specifications originating in named countries.

Payment Agreements in Barter Arrangements

There are a variety of methods of payment in barter arrangements. Some have the payment agreement within the agreement; others are outside or parallel to the commodity agreement. But most countries set up bilateral clearing accounts in central, national, or commercial banks in the contracting countries to receive all current payments and avoid using precious foreign currencies. Local currencies are then paid into these clearing accounts. It has been said that in order to adjust the parity of the clearing currencies (international currencies such as Sterling or U.S. dollars are clearing currencies) when the market value changes, a "gold clause" in the barter agreement indicates the mutually agreed gold value of the clearing unit. This provision aims at preventing both contractual partner countries from suffering loss (16).

Since reciprocal payments rarely occur simultaneously, a swing credit is given to overcome temporary imbalances and to avoid interruptions in trade relations. Often the agreement will have a three month settlement period in which to settle outstanding balances. Countries settle through deliveries of goods using convertible currencies only as a last resort (16).

Third party payments or trilateral clearing account balances, switch arrangements of exported goods, and conversion of bilateral clearing funds into hard currencies are all derived from countries seeking innovative ways to settle their payments accounts. The most damaging of payments systems are the latter when currencies of a country are sold at a discount in international switch markets. These discount sales can cause balance of payments problems for a country.

Non-Monetary Arrangements

East Germany is the best example of a country with recent balance-of-payments problems, and thereby of a country fostering barter arrangements. They want to boost exports to the West so they have developed new schemes: barter deals that are elaborate buy-back arrangements tacked on to normal commercial purchases, or compensation, counter-purchase, or counter-trade contracts that obligate the capitalist suppliers to accept a percentage of payment in merchandise of one kind or another. Preconditions range from 40% to full value of the import in a classic barter transaction. The supplier who refuses to go along with these new requirements simply loses out to a competitor who does (8,34).

Appendix 3. Table 1.--List of National Defense Stockpile Inventory of Strategic and Critical Materials

Commodity

1. Aluminum Metal Group
    Alumina
    Aluminum
Bauxite, Metal Grade,
        Jamaica Type
Bauxite, Metal Grade,
        Surinam Type
2. Aluminum Oxide, Abrasive
    Grain Group
      Aluminum Oxide,
        Fused, Crude
    Bauxite, Abrasive Grade
3. Antimony
4. Asbestos, Amosite
5. Asbestos, Chrysotile
6. Bauxite, Refractory
7. Beryllium Metal Group
      Beryl Ore
      Beryllium Copper Master Alloy
      Beryllium Metal
8. Bismuth
9. Cadmium
10. Chromium, Chemical and
    Metallurgical Group
        Chromite, Chemical
          Grade Ore
        Chromite, Metallurgical
          Grade Ore
        Chromium, Ferro, High Carbon
        Chromium, Ferro, Low Carbon
        Chromium, Metal
12. Chromite, Refractory Grade Ore
13. Cobalt
14. Columbium Group
        Columbium Carbide Powder
        Columbium Concentrates
        Columbium, Ferro
        Columbium, Metal
15. Copper
16. Cordage Fibers, Abaca
17. Cordage Fivers, Sisal
18. Diamond, Industrial Group
        Diamond Dies, Small
        Diamond, Industrial, Crushing Bort
        Diamond, Industrial, Stones
19. Feathers and Down
20. Fluorspar, Acid Grade
21. Fluorspar, Metallurgical Grade

22. Graphite, Natural, Ceylon,
    Amorphous Lump
23. Graphite, Natural, Malagasy,
    Crystalline
24. Graphite, Natural, Other than
    Ceylon & Malagasy
25. Iodine
26. Jewel Bearings
27. Lead
28. Manganese, Dioxide, Battery
    Grade Group
    Manganese, Battery Grade,
      Natural Ore
    Manganese, Battery Grade,
      Sythetic Dioxide
29. Manganese, Chemical and
    Metallurgical Group
    Manganese Ore, Chemical Grade
    Manganese Ore, Metallurgical Grade
    Manganese, Ferro, High Carbon
    Manganese, Ferro, Low Carbon
    Manganese, Ferro, Medium Carbon
    Manganese, Ferro, Silicon
    Manganese, Metal, Electrolytic
30. Mercury
31. Mica Muscovite Block,
32. Mica Muscovite Film,
    First and Second Qualities
33. Mica Muscovite Splittings
34. Mica Phlogopite Block
35. Mica Phlogopite Splittings
36. Molybdenum Group
      Molybdenum Disulphide
      Molybdenum, Ferro
37. Nickel
38. Opium Group
      Opium, Gum
      Opium, Salt
39. Platinum Group Metals, Iridium
40. Platinum Group Metals, Palladium
41. Platinum Group Metals, Platinum
42. Pyrethrum
43. Quartz Crystals
44. Quinidine
45. Quinine
46. Rubber
47. Rutile
48. Saphire and Ruby
49. Silicon Carbide, Crude
50. Silver, Fine
51. Talc, Steatite Block and Lump

52. Tantalum Group
    - Tantalum, Carbide Powder
    - Tantalum Metal
    - Tantalum Minerals
53. Thorium Nitrate
54. Tin
55. Titanium Sponge
56. Tungsten Group
    - Tungsten Carbide Powder
    - Tungsten, Ferro
    - Tungsten, Metal Powder
    - Tungsten Ores & Concentrates
57. Vanadium Group
    - Vanadium, Ferro
    - Vanadium Pentoxide
58. Vegetable Tannin Extract, Chestnut
59. Vegetable Tannin Extract, Quebracho
60. Vegetable Tannin Extract, Wattle
61. Zinc

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Bauxite	Jamaica	chicken (young, whole fresh or frozen); beef offals (fresh or frozen); beef, prepared (fresh, frozen); egg-shell for hatching; bulgur wheat (not relief); flour; cornstarch, including milo; glucose sirup, including fructose.	Jamaica type $37.71 per LDT Surinam type $40.49 per LDT refractory grade $194.88 per LDT	(1.3)
	Guinea	milk, cream (sweetened, condensed); rice, long-grain (not parboiled).		- - -
	Australia	almonds (not blanched, shelled); filler flu-cured, leaf tobacco stemmed); filler burley leaf tobacco stemmed; soybeans (except planting seed); soybean oil crude; soybean oil (refined, not relief); soy bean oilcake and meal.		7.1
Columbium concentrate	Brazil	baby chicks (breeding stock); vegetable seeds (not specifically provided for); black beans (except seed, dried); soybeans (except planting seed); hops.	- - -	(22.8)
	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for); cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin).		9.9

a/ Source: See Table 15 in text.

b/ Source: Commodity Fact Sheets, Office of Stockpile Transactions, Federal Property Resources Service, GSA, March 1981.

c/ Source: Food and Agriculture Organization, Trade Yearbook, 1980.

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Copper	Thailand	- - -	Copper $0.98938 per pound, electrolytic	(6.4)
	Chile	sugar (beet/cane, refined); soybean oil, crude.		- - -
	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for); cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin).		9.9
	Zambia	- - -		2.0
	Peru	- - -		(.3)
Fluorspar, Acid Grade	Mexico	- - -	Acid Grade $140.00 per SDT	(16.9)
	Rep. of S. Africa	- - -		22.6
	Spain	- - -		(46.4)
	Italy	cattle hides, whole; fur skin, undressed; walnut, not shelled or roasted; prunes, dried; filler flu-cured (leaf tobacco, unstemmed); filler burley (leaf tobacco, unstemmed); soybeans, (except planting seed); sunflower seed; soybean oilcake & meal; raw cotton.		(2.9)
Fluorspar, Metallurgical Grade	Mexico	- - -	Metallurgical Grade $97.50 per SDT	(16.9)
	Rep. of S.	- - -		22.6
	Spain	- - -		(46.4)

Appendix 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Iron Ore	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for); cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin).		9.9
	Venezuela	- - -	- - -	17.0
	Brazil	baby chicks (breeding stock); vegetable seeds (not specifically provided for); black beans (except seed, dried); soybeans (except planting seed); hops.	- - -	(22.8)
Lead	Honduras	tallow, inedible; soybean oilcake and meal	$0.42 per pound	(.5)
	Peru			(.3)
	Australia	almonds (not blanched, shelled); filler flu-cured, leaf tobacco stemmed; filler burley leaf tobacco stemmed; soybeans (except planting seed); soybean oil crude; soybean oil (refined, not relief); soybean oilcake and meal.		7.1
Manganese	Gabon	- - -	Chemical grade $82.00 per SDT	3.6
	Brazil	baby chicks (breeding stock); vegetable seeds (not specifically provided for); black beans (except seed, dried); soybeans (except planting seed); hops.	Metallurgical ore	(22.8)
	Australia	almonds (not blanched, shelled; filler flu-cured, leaf tobacco stemmed); filler burley leaf tobacco stemmed; soybeans (except planting seed); soybean oil crude; soybean oil (refined, not relief); soybean oilcake and meal.	Ferro manganese high carbon $510.00 per SDT of alloy	7.1
	Rep. of South Africa	- - -		(22.6)

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Nickel	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for); cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin) yellow corn (not relief).	$3.50 per pound	9.9
	Norway	- - -		(13.7)
	Dominican	hd. rice (Long grain); pinto beans (except seed, dried); cnn. shade leaf tobacco; soybeans (except planting seed); cottonseed oil, crude; cottonseed oil (once refined); soybean oil, crude; tallow inedible; soybean oilcake and meal.		(.2)
Platinum Group	Rep. of S. Africa	- - -	$600.00 per troy ounce	22.6
Iridium	USSR	- - -		(58.8)
	United Kingdom	- - -		(6.0)
Platinum Group	Rep. of S. Africa	- - -	$225.00 per troy ounce	22.6
Palladium	USSR	- - -		(58.8)
	United Kingdom	- - -		(6.0)

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Tantalum Minerals	Thailand	- - -	$113.00 per pound	(6.4)
	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for; cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin) yellow corn (not relief).		9.9
Tin	Malaysia	- - -	$7.9836 per pound	9.2
	Bolivia	milk; oats, except breakfast foods; durum flour and semolina, relief; wheat flour, relief and not relief; bulgur wheat.		- - -
	Indonesia	rice (relief); hd. rice (long grain); wheat (bulgur, relief); apples, fresh, filler, flu-cured (leaf, unstemmed); DK - frd Ky. & Tn. leaf tobacco; soybeans except planting seed); raw cotton.		26.7
	Thailand	- - -		(6.4)
Titanium Sponge	Japan	chickens (cut-up, pieces); beef carcasses, w/o bone; swine, prml. cuts; beef (fresh, chilled or frozen); popcorn (not relief); almonds (not blanched, shelled); grapefruit, lemons, & oranges (fresh); grapes, dried raisins; filler flu-cured (leaf tobacco, stemmed); soybeans (except planting seed); tallow inedible, beet pulp, dried; soybean oilcake and meal; alfalfa hay cubes, raw cotton.	$7.02 per pound	1.4

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Zinc	USSR	- - -	$0.37625 per pound	(58.8)
	United Kingdom	- - -		(6.0)
	China, PRC	soybeans (except planting seed); soybean oil, crude; tallow, inedible; raw cotton.		- - -
Other Non-ferrous metals				
Antimony	China, PRC	soybeans (except planting seed); soybean oil, crude; tallow, inedible; raw cotton.	$2.01 per pound, metal ingots	- - -
Cadmium	Canada	cattle (except breeding); beef carcasses (w/o bone); swine (prml. cuts, not specifically provided for; cattle hides, whole; mink furskin, undressed; furskin, undressed; nursery stock (live plant); hd. rice, Long grain; broccoli, (fresh chilled); onions (fresh, chilled); potatoes (not seed); tomatoe, (fresh, chilled); vegetables (fresh or chilled); peanuts, (shelled, not blanched, not oil); apples, grapefruit, oranges, peaches, & nectarines (fresh); grapes (dried, raisin) yellow corn (not relief).	---	9.9
	Australia	almonds (not blanched, shelled; filler flu-cured, leaf tobacco stemmed; filler burley leaf tobacco stemmed; soybeans (except planting seed); soybean oil crude; soybean oil (refined, not relief); soybean, oilcake and meal.		7.1
Chromium	Rep. of S. Africa	- - -	Metallurgical Grade $139.99 per SDT	- - -
	Philippines	- - -	Chemical Grade $65.00 per SDT	(6.3)

APPENDIX 3, Table 2.--Agricultural Commodities other than CCC Uncommitted Stocks and Country Balance-of-Payments Positions (Continued)

Material a/	U.S. Import Sources	Import Sources Which are Potential Users of a/ Agricultural Commodities Other Than CCC Uncommitted Stocks	Market b/ Price	Cumulative TOTAL c/ Merchandise Trade Balance 1974, 79 ($Bil.)
Chromium cont.	USSR	- - -	Refractory Grade $104.00 per SDT	(58.8)
	Turkey	- - -	Chromium ferroalloys Chromium Metal $3.90 per pound	(17.9)
Cobalt	Zaire	- - -		- - -
	Belgium	horsemeat (carc. prml. ct); beef tongue (fresh, chilled, frozen); rice (hsk. bwn., long grain); hd. rice (Lg. Pb, Wt. rL); almonds (not blanched, shelled); lemons, fresh; prunes, dried; filler flu-cured, lf. unstemmed; filler flu-cured (leaf-stemmed); soybeans (except planting seed); sunflower seed; corn oil (crude, once refined); tallow, inedible; isolates; hops; soybean oilcake and meal.		(16.8)
Mercury	Spain	- - -		(46.4)
	Algeria	cattle hides, whole; beans - great northern (except seed); lentils; peanuts, shelled (except oil stock).		(5.9)
	Italy	- - -		(2.9)
	Yugoslavia	- - -		(25.3)